

MODULE 1—Operations and Linear Equations & Inequalities

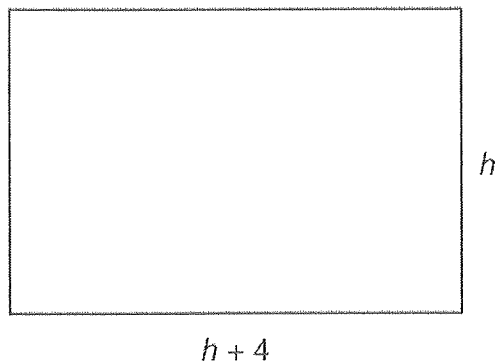
ASSESSMENT ANCHOR

A1.1.1 Operations with Real Numbers and Expressions

Sample Exam Questions

Standard A1.1.1

Keng creates a painting on a rectangular canvas with a width that is four inches longer than the height, as shown in the diagram below.



- A. Write a polynomial expression, in simplified form, that represents the area of the canvas.

Keng adds a 3-inch-wide frame around all sides of his canvas.

- B. Write a polynomial expression, in simplified form, that represents the **total area** of the canvas and the frame.

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Standard A1.1.1

The results of an experiment were listed in several numerical forms as listed below.

$$5^{-3} \quad \frac{4}{7} \quad \sqrt{5} \quad \frac{3}{8} \quad 0.003$$

- A. Order the numbers listed from **least** to **greatest**.

Another experiment required evaluating the expression shown below.

$$\frac{1}{6} (\sqrt{36} \div 3^{-2}) + 4^3 \div |-8|$$

- B. What is the value of the expression?

value of the expression: _____

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Continued. Please refer to the previous page for task explanation.

The last experiment required simplifying $7\sqrt{425}$. The steps taken are shown below.

$$7\sqrt{425}$$

step 1: $7(\sqrt{400} + \sqrt{25})$

step 2: $7(20 + 5)$

step 3: $7(25)$

step 4: 175

One of the steps shown is incorrect.

C. Rewrite the incorrect step so that it is correct.

correction: _____

D. Using the corrected step from **part C**, simplify $7\sqrt{425}$.

$7\sqrt{425} =$ _____

MODULE 1—Operations and Linear Equations & Inequalities

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A1.1.2 Linear Equations

Sample Exam Questions

Standard A1.1.2

Nolan has \$15.00, and he earns \$6.00 an hour babysitting. The equation below can be used to determine how much money in dollars (m) Nolan has after any number of hours of babysitting (h).

$$m = 6h + 15$$

- A. After how many hours of babysitting will Nolan have \$51.00?

hours: _____

Claire has \$9.00. She makes \$8.00 an hour babysitting.

- B. Use the system of linear equations below to find the number of hours of babysitting after which Nolan and Claire will have the same amount of money.

$$m = 6h + 15$$

$$m = 8h + 9$$

hours: _____

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